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(22) Date of filing : 21.06.2000 (72) Inventor : MAEDA MINORU

(54) SIMPLE ESTIMATING METER FOR MOVEMENT OF SUN

(57) Abstract:

PROBLEM TO BE SOLVED: To provide an instrument which can easily estimate the movement of the sun by cutting and assembling one sheet of plate.
SOLUTION: A horizontal plate, vernal equinox (autumnal equinox) plate, latitude plate, summer solstice plate, winter solstice plate and four sheets of standing plates are assembled like a completion drawing. The horizontal plate is set horizontal at the height of the eyes and the latitude plate is directed to the due south. The outer edges on the outside of the summer solstice plate and the winter solstice at the centers of the circular arcs of the horizontal plate, the latitude plate and the vernal equinox (autumnal equinox) plate, i.e., at the position where the respective plates are viewed as lines are the loci of the sun of the day of the summer solstice and the winter solstice at the point of the latitude of the latitude plate. The lines of the vernal equinox (autumnal equinox) are the loci of the sun in the day of the vernal equinox (autumnal equinox) and move back and forth between the summer solstice and the winter solstice in one year.

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CLAIMS

[Claim(s)]

[Claim 1]The instrument which guesses a motion of the sun by cutting out one plate and assembling cut-off each part.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application]This invention only assembles the components which cut out the instrument which can guess a motion of the sun in all the points on the earth from one plate, and can make them easily.

[0002]

[Description of the Prior Art]Conventionally, there is that [no] which a motion of the sun can guess with an easy instrument that only this is.

[0003]

[Problem(s) to be Solved by the Invention]A motion of the sun of the day of the vernal equinox (autumnal equinox) in a certain point (in the case of the Northern Hemisphere) goes up from an east, and is 90 degrees at the time of meridian transit. - The height of the LAT of the point is passed, it sinks in west, and the day of the summer solstice passes through the parallel side top on about 23.3 degrees of the locus of the day of the vernal equinox (autumnal equinox), and, similarly the day of winter solstice passes through the bottom. Then, it considered whether the locus of the sun of each day could be drawn on an actual sky.

[0004]

[Means for Solving the Problem]Although it will be the relation of the dimension of drawing 1 if this invention is explained based on a drawing, the die length of Slit a and Slit b is equal to the width of face of a LAT plate, the location of Slit a is the same location as the radius of a LAT plate, and Slit c shifts only slit b die length from Slit a to the main twist of a semicircle. The sum total of the die length of Slit d, Slit e, and Slit f is made equal to the width of face of a standing board. Moreover, spacing of Slit e and Slit f is made equal to $23.3 \times (\text{radius of outside of summer-solstice plate}) \tan(s)$. Furthermore, a horizontal plate is made smaller than a vernal equinox (autumnal equinox) plate so that a standing board may not be contacted. Nine components are cut out so that the above four conditions may be fulfilled. First, although it is the locus of the sun of the day of the vernal equinox (autumnal equinox), the LAT plate containing the graduation of 90 degrees is inserted in the slit c of a horizontal plate, and the slit b in the place of 90 degrees is stuffed into a horizontal plate. Next, the slit a of a vernal equinox (autumnal equinox) plate is inserted in a LAT plate, it puts on the condition of having bent the semicircle to the horizontal plate, and the bay of both ends is stopped with adhesive tape. And a vernal equinox (autumnal equinox) plate is opened to the graduation of the LAT of the point. The line of the vernal equinox (autumnal equinox) plate which levels a horizontal plate, turns a LAT plate to true south, is made to move an eye till the place where it is a location as it is at, and a horizontal plate, a LAT plate, and a vernal equinox (autumnal equinox) plate become a line, respectively, and appears in this condition is the locus of the sun of the day of the vernal equinox (autumnal equinox) in that point. If SURITTO ** of the middle of four more standing boards is put to a slit (30 degrees of a vernal equinox (autumnal equinox) plate, 60 degrees, 120 degrees, and 150 degrees), a summer-solstice plate and a winter solstice plate are inserted in the slit of the vertical

outside of a standing board and empty is seen in the way of the day of the previous vernal equinox (autumnal equinox), the line of the edge of the outside of a summer-solstice plate and a winter solstice plate will become the locus of the sun in the point of the summer solstice and winter solstice, respectively. Moreover, if 180-degree sense is changed, a LAT plate is set north and an instrument is seen to a vertical upside-down on the basis of a horizontal plate, the locus of the sun of north empty can be seen. In the case of **** and the Southern Hemisphere, south and north should just be made reverse.

[0005]

[Effect of the Invention] Since it can make at a low price since it can do simply with one plate, and a motion of the sun of all the points on the earth is known, it can use as teaching materials of a school. Moreover, since a motion of the sun which lets one year in a specific point pass is known, the condition of sunshine is known at a glance.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The example of a decision Fig. of this invention

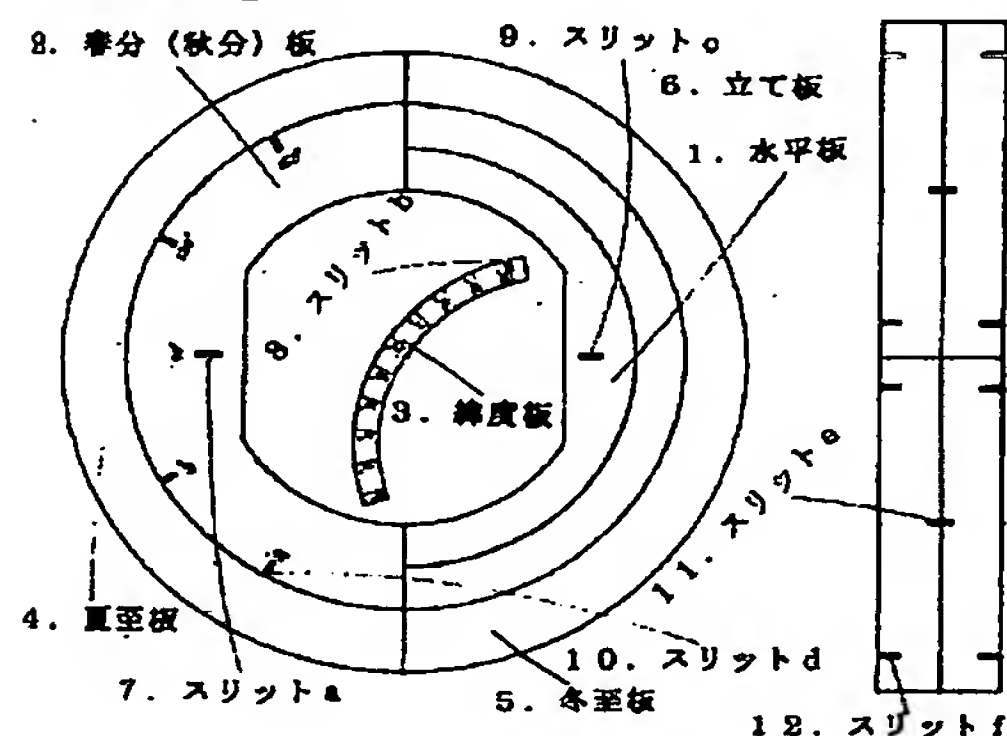
[Drawing 2] The assembly final drawing of this invention

[Description of Notations]

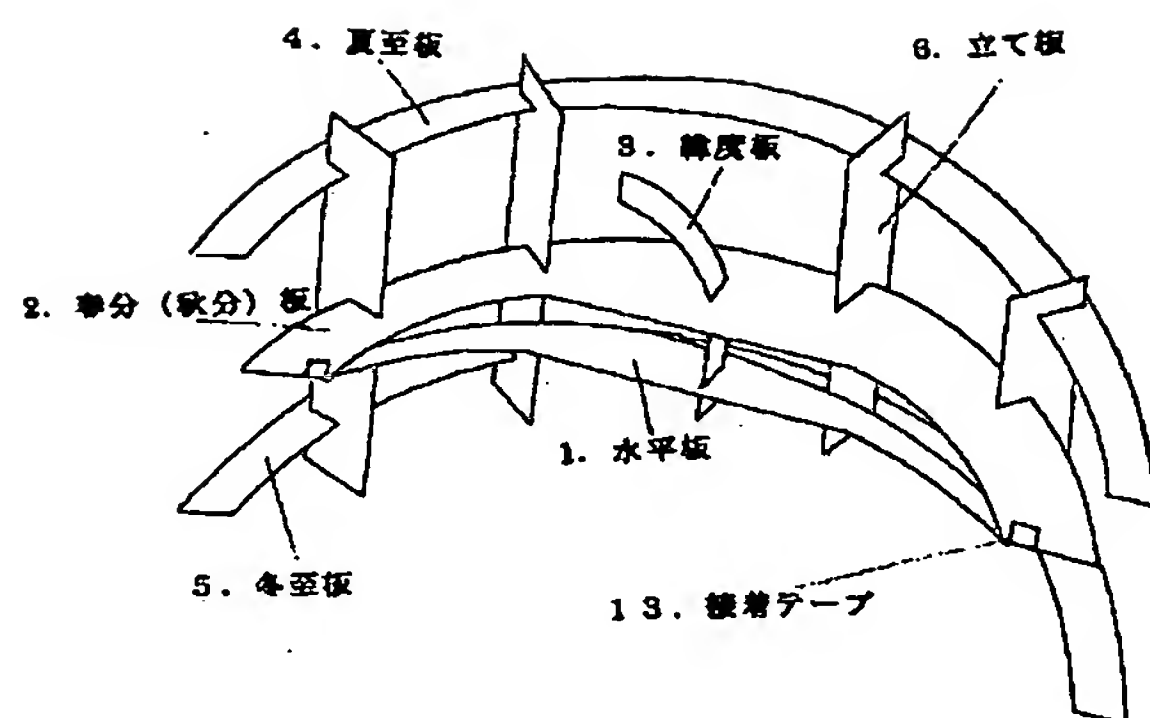
1. Horizontal Plate
2. Vernal Equinox (Autumnal Equinox) Plate
3. LAT Plate
4. Summer-Solstice Plate
5. Winter Solstice Plate
6. Standing Board
7. Slit A
8. Slit B
9. Slit C
10. Slit D
11. Slit E
12. Slit F
13. Adhesive Tape

DRAWINGS

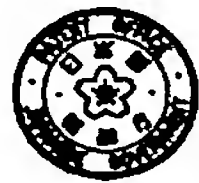
[Drawing 1]



[Drawing 2]



(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

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(54) **SIMPLE ESTIMATING METER FOR MOVEMENT OF SUN**

the winter solstice in one year.

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